Twelfth Census of the United States.

CENSUS BULLETIN.

No. 193. WASHINGTON, D. C. June 17, 1902.

AGRICULTURE.

NEBRASKA.

Hon. WILLIAM R. MERRIAM,
Director of the Census.

SIR: I have the honor to transmit herewith, for publication in bulletin form, the statistics of agriculture for the state of Nebraska, taken in accordance with the provisions of section 7 of the act of March 3, 1899. This section requires that—

> The schedules relating to agriculture shall comprehend the following topics: Name of occupant of each farm, color of occupant, tenure, acreage, value of farm and improvements, acreage of different products, quantity and value of products, and number and value of live stock. All questions as to quantity and value of crops shall relate to the year ending December thirty-first next preceding the enumeration.

A "farm," as defined by the Twelfth Census, includes all the land, under one management, used for raising crops and pasturing live stock, with the wood lots, swamps, meadows, etc., connected therewith. It includes also the house in which the farmer resides, and all other buildings used by him in connection with his farming operations.

The farms of Nebraska, June 1, 1900, numbered 121,525, and were valued at $577,660,020. Of this amount $91,054,120, or 15.8 per cent, represents the value of buildings, and $486,605,900, or 84.2 per cent, the value of land and improvements other than buildings. On the same date the value of farm implements and machinery was $24,940,450, and that of live stock, $145,349,587. These values, added to that of farms, give $747,950,057, the "total value of farm property."

The products derived from domestic animals, poultry, and bees, including animals sold and animals slaughtered on farms, are referred to in this bulletin as "animal products." The total value of such products, together with the value of all crops, is termed "total value of farm products." This value for 1899 was $162,696,386, of which amount $70,227,060, or 43.2 per cent, represents the value of animal products, and $92,469,326, or 56.8 per cent, the value of crops, including forest products cut or produced on farms. The total value of farm products for 1899 exceeds that reported for 1889 by $95,858,769, or 143.4 per cent.

The "gross farm income" is obtained by deducting from the total value of farm products the value of the products fed to live stock on the farms of the producers. In 1899 the reported value of products fed was $38,025,530, leaving $124,670,856 as the gross farm income. The percentage which this latter amount is of the "total value of farm property" is termed the "percentage of gross income upon investment." For Nebraska in 1899 it was 16.7 per cent.

As no reports of expenditures for taxes, interest, insurance, feed for stock, and similar items have been obtained by any census, no statement of net farm income can be given.

The statistics presented in this bulletin will be treated in greater detail in the report on agriculture in the United States. The present publication is designed to present a summarized advance statement for Nebraska.

Very respectfully,

L. G. Powers.

Chief Statistician for Agriculture.

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AGRICULTURE IN NEBRASKA.

GENERAL STATISTICS.

Nebraska has a total land area of 76,840 square miles, or 49,177,600 acres, of which 29,911,779 acres, or 60.8 per cent, are included in farms.

The surface of Nebraska is a high, gently rolling prairie, which breaks into a few hills in the extreme west. The general slope of the state is toward the southeast, where the elevation above the waters of the Gulf of Mexico is about nine hundred feet. From this portion of the state the ascent is very gradual, both to the north, along the Missouri, and to the west to the foothills of the Rocky Mountains. The elevation of the entire western boundary of the state is about four thousand feet. The highest point, which is Scotts Bluff, is located a little south of where the North Platte River enters the state, and has an elevation of 6,000 feet.

The soil, which is very fertile, mellow, and easily tilled, consists of fine sand, mixed with clay and vegetable mold of considerable depth and unusual richness. In the three tiers of counties along the Missouri River, which forms a boundary for nearly five hundred miles, the glacial drift is found to some extent.

Nebraska is preeminently an agricultural state. The fertility of the soil is greatest in the eastern and west-central sections of the state, while the Bad Lands, located in the northwestern part, and traversed by the forks of the Cheyenne and White rivers, are not entirely barren. Since the soil throughout the state contains all the elements essential to agriculture, it requires comparatively little fertilizing.

NUMBER AND SIZE OF FARMS.

Table 1 gives, by decades since 1860, the number of farms, the total and average acreage, and the per cent of farm land improved.

TABLE 1.—FARMS AND FARM ACREAGE: 1860 TO 1900.

YEAR.	Number of farms.	NUMBER OF ACRES IN FARMS.				Per cent of farm land improved.
		Total.	Improved.	Unimproved.	Average.	
1900	121,525	29,911,779	18,482,595	11,479,184	246.1	61.6
1890	118,608	21,593,444	15,247,705	6,345,739	190.1	70.6
1880	63,387	9,944,826	5,504,702	4,440,124	156.9	55.3
1870	12,301	2,073,781	647,031	1,426,750	168.6	31.2
1860	2,789	631,214	118,789	512,425	226.3	18.8

The number and area of farms has increased rapidly since 1860, the rates of increase since 1890 being 7.0 per cent and 38.5 per cent, respectively. The establishment of extensive live-stock ranches in the western part of the state, and the cultivation of large corn-producing areas throughout the state have effected a substantial increase in the average size of farms since 1880. The development of the aforesaid industries has been so rapid that the division of farm holdings in the eastern half of the state, where the farms are more intensively cultivated, has not been sufficient to counteract the effect of the expansive movement in the western section. In the last decade this increase in the average size of farms was most marked. The acreage of improved farm land has increased each decade until the last, when, probably owing to a more strict definition of the term "improved" by the Twelfth Census than heretofore, a slight decrease is shown.

FARM PROPERTY AND PRODUCTS.

Table 2 presents a summary of the principal statistics relating to farm property and products for each census year, beginning with 1860.

TABLE 2.—VALUES OF SPECIFIED CLASSES OF FARM PROPERTY, AND OF FARM PRODUCTS: 1860 TO 1900.

YEAR.	Total value of farm property.	Land, improvements, and buildings.	Implements and machinery.	Live stock.	Farm products.[1]
1900	$747,950,057	$577,660,020	$24,940,450	$145,349,587	$162,696,386
1890	511,799,810	402,358,913	16,468,977	92,971,920	66,837,617
1880	147,193,723	105,932,541	7,820,917	33,440,265	$1,708,914
1870[2]	38,343,087	30,242,186	1,549,716	6,551,185	[3] 8,604,742
1860	5,212,761	3,878,326	205,664	1,128,771	

[1] For the year preceding that designated.
[2] Values for 1870 were reported in depreciated currency. To reduce to specie basis of other years they must be diminished one-fifth.
[3] Includes betterments and additions to live stock.

Each decade since 1860 shows gains in the values of all forms of farm property. For the decade ending in 1900 the increases in values are as follows: All farm property, 46.1 per cent; farms, 43.6 per cent; implements and machinery, 51.4 per cent; live stock, 56.3 per cent. The value of farm products for 1899 was more than twice as great as that reported for 1889, but a part of this gain, and of that shown in implements and machinery, is doubtless due to a more detailed enumeration in 1900 than heretofore.

COUNTY STATISTICS.

Table 3 gives a statement of general agricultural statistics by counties.

TABLE 3.—NUMBER AND ACREAGE OF FARMS, AND VALUES OF SPECIFIED CLASSES OF FARM PROPERTY, JUNE 1, 1900, WITH VALUE OF PRODUCTS OF 1899 NOT FED TO LIVE STOCK, AND EXPENDITURES IN 1899 FOR LABOR AND FERTILIZERS, BY COUNTIES.

COUNTIES.	NUMBER OF FARMS.		ACRES IN FARMS.		VALUES OF FARM PROPERTY.				Value of products not fed to live stock.	EXPENDITURES.	
	Total.	With buildings.	Total.	Improved.	Land and improvements (except buildings).	Buildings.	Implements and machinery.	Live stock.		Labor.	Fertilizers.
The State	121,525	114,537	29,911,779	18,432,595	$486,605,900	$91,054,120	$24,940,450	$145,349,587	$124,670,856	$7,399,160	$153,080
Adams	1,949	1,811	343,131	305,465	7,710,610	1,621,690	455,660	1,430,111	1,962,761	77,320	4,170
Antelope	1,745	1,677	470,335	319,855	5,949,450	1,235,550	398,350	2,052,604	1,733,742	77,440	5,720
Banner	226	224	205,797	18,359	344,530	127,780	34,620	688,055	184,086	7,140	
Blaine	131	128	57,540	15,178	173,820	87,200	13,060	347,571	71,687	10,610	1,030
Boone	1,624	1,552	394,148	292,933	7,144,710	1,222,480	878,250	1,939,599	2,019,872	91,790	430
Boxbutte	484	479	366,888	50,358	734,560	129,640	60,170	1,068,317	889,796	26,110	
Boyd	1,289	1,272	240,887	140,021	2,124,730	394,810	181,500	944,106	695,215	12,070	
Brown	513	486	265,736	88,816	753,300	208,220	69,240	775,392	293,140	14,100	530
Buffalo	2,381	2,249	614,329	407,138	8,225,010	1,736,890	505,990	2,543,903	2,146,266	136,210	5,260
Burt	1,601	1,523	292,733	277,464	8,747,490	1,499,930	406,360	2,156,335	2,202,646	175,560	5,050
Butler	2,098	1,967	366,507	319,439	10,957,240	1,764,210	484,790	2,059,740	2,691,187	131,290	5,770
Cass	2,310	2,151	335,540	284,427	12,753,960	2,408,800	431,980	1,914,723	2,649,487	137,510	
Cedar	1,731	1,654	410,625	307,023	8,450,520	1,359,100	463,170	2,370,010	1,906,046	108,050	2,860
Chase	464	457	269,627	96,377	986,110	189,300	55,060	858,362	317,028	27,680	20
Cherry	1,082	1,039	717,635	239,321	2,860,240	438,750	157,210	4,667,692	1,231,264	148,120	10,360
Cheyenne	712	698	412,334	87,684	1,366,790	391,950	105,250	2,086,002	416,052	54,850	1,910
Clay	2,087	1,946	359,604	305,064	8,902,570	1,686,780	498,210	1,584,253	1,969,807	88,680	640
Colfax	1,451	1,337	252,865	226,288	7,428,190	1,266,680	282,290	1,589,178	1,661,094	88,310	440
Cuming	1,857	1,779	364,065	352,802	11,275,540	2,123,340	708,900	2,620,948	2,281,966	135,820	8,320
Custer	3,366	3,161	1,251,757	634,538	8,003,330	1,396,250	618,180	3,850,009	2,403,040	146,250	500
Dakota	743	701	152,077	99,439	3,960,550	807,670	199,780	992,777	1,008,983	78,570	5,140
Dawes	693	678	491,768	81,041	1,056,640	284,460	79,280	1,159,355	423,325	27,020	110
Dawson	1,728	1,676	551,598	328,340	6,121,910	1,154,500	404,940	1,949,520	1,524,586	98,820	660
Deuel	510	499	400,701	76,586	1,605,470	281,880	92,510	2,568,165	572,021	64,440	
Dixon	1,408	1,357	286,066	207,610	6,154,510	1,167,930	373,590	1,795,685	1,514,431	67,140	940
Dodge	1,830	1,743	328,830	291,866	12,645,530	2,385,870	488,700	2,462,559	2,866,362	496,610	2,330
Douglas	1,909	1,738	197,744	175,855	10,851,230	1,978,680	363,630	1,493,889	2,151,141	191,880	1,390
Dundy	472	449	254,463	90,041	853,060	149,990	57,590	754,155	294,002	16,560	
Fillmore	2,155	2,022	355,862	308,820	8,789,500	1,617,610	431,320	1,499,681	2,035,866	94,130	3,430
Franklin	1,383	1,308	330,618	200,628	4,344,380	820,210	259,390	1,509,458	1,241,855	31,990	
Frontier	1,574	1,480	554,703	267,325	3,236,420	679,680	277,090	1,431,819	1,141,584	47,900	1,090
Furnas	1,870	1,764	433,550	290,596	4,574,280	945,190	302,590	1,741,202	1,573,723	62,730	800
Gage	3,394	3,005	539,749	464,937	15,678,850	2,846,420	640,280	2,774,662	3,992,923	201,200	8,550
Garfield	369	369	106,470	43,991	595,800	110,240	45,390	500,377	142,346	8,620	
Gosper	1,013	949	280,586	22,938	2,817,870	614,690	187,620	951,881	878,325	99,970	90
Grant	110	101	118,884	56,962	642,560	79,460	29,390	1,546,309	300,065	40,830	
Greeley	864	833	267,597	134,445	2,450,100	543,070	170,690	1,049,777	819,906	81,060	2,050
Hall	1,617	1,537	322,098	259,450	6,171,710	1,367,880	309,930	1,554,165	1,897,522	119,490	120
Hamilton	2,049	1,936	341,119	305,779	8,137,780	1,765,580	436,020	1,948,844	2,202,001	96,040	1,200
Harlan	1,401	1,336	341,604	213,114	4,487,200	846,180	353,870	1,468,190	1,239,940	41,950	150
Hayes	567	545	286,556	85,648	788,090	184,680	82,940	704,090	373,153	17,710	1,580
Hitchcock	757	733	319,340	188,105	1,240,510	261,680	101,360	608,599	383,008	14,290	
Holt	1,876	1,802	732,155	383,609	4,261,800	1,050,580	355,910	3,221,299	1,627,914	71,010	850
Hooker	51	46	31,442	7,587	74,340	8,320	5,520	438,462	82,200	9,450	
Howard	1,486	1,440	341,120	198,822	4,478,040	1,017,410	306,310	1,527,665	1,358,076	73,050	210
Jefferson	2,081	1,898	359,254	278,445	8,198,030	1,650,130	421,220	2,093,078	2,311,682	118,570	3,380
Johnson	1,594	1,427	229,692	198,718	7,276,290	1,233,660	280,840	1,319,252	1,716,487	78,190	2,540
Kearney	1,509	1,434	312,391	266,017	5,873,320	1,241,660	344,230	1,328,958	1,436,827	75,630	120
Keith	303	298	402,626	74,399	1,259,730	119,310	45,960	1,195,742	260,625	25,350	
Keyapaha	599	575	230,344	62,096	925,110	197,650	86,810	890,806	369,413	8,470	400
Kimball	112	107	157,894	8,388	263,760	99,390	18,340	703,225	251,771	19,600	
Knox	2,141	2,046	545,176	313,706	7,639,950	1,403,190	441,760	2,436,916	1,844,463	100,280	1,420
Lancaster	3,585	3,242	514,419	445,114	17,442,020	2,776,060	614,070	2,745,602	3,584,819	193,140	9,790
Lincoln	1,468	1,426	601,993	227,349	3,253,980	693,960	228,200	1,929,551	922,402	95,100	1,770
Logan	184	180	102,865	36,408	515,600	58,390	40,460	372,623	190,048	14,490	10
Loup	259	254	86,424	35,181	554,570	89,410	47,390	387,844	186,601	10,200	10
McPherson	127	114	86,768	17,749	311,180	80,190	14,610	721,205	160,308	17,880	
Madison	1,703	1,604	360,679	280,031	7,718,780	1,308,880	355,230	1,886,347	2,086,840	104,400	2,020
Merrick	1,291	1,201	290,881	266,205	5,260,980	1,056,590	267,480	2,075,290	1,885,637	80,220	7,340
Nance	1,142	1,048	270,525	196,003	5,339,590	840,710	238,340	2,069,292	1,838,838	124,980	470
Nemaha	1,738	1,624	237,075	214,686	9,278,830	1,478,850	349,650	1,410,863	1,946,519	119,080	110
Nuckolls	1,773	1,616	357,401	275,825	6,997,000	1,231,120	349,230	2,000,027	1,629,103	82,860	1,080
Otoe	2,424	2,282	377,596	337,995	13,969,550	2,466,640	509,510	2,168,140	2,907,205	190,510	7,190
Pawnee	1,649	1,531	265,479	187,476	5,429,880	1,328,560	306,720	1,691,721	1,679,641	68,690	1,620
Perkins	335	326	114,082	35,882	155,150	171,480	38,400	605,610	225,407	6,690	
Phelps	1,452	1,379	386,481	261,182	5,671,330	1,292,620	393,820	1,532,199	1,264,827	72,400	750
Pierce	1,215	1,135	293,836	226,699	5,394,910	1,058,080	258,290	1,788,174	1,440,227	87,850	
Platte	2,124	2,026	411,015	339,853	11,366,170	2,057,340	524,130	2,432,568	2,742,388	141,556	670
Polk	1,699	1,560	276,189	249,924	6,682,790	1,426,920	338,070	1,712,885	1,851,894	99,900	910
Redwillow	1,237	1,177	393,560	271,339	3,124,890	639,620	223,460	1,208,402	934,154	49,710	1,100
Richardson	2,415	2,264	338,329	291,888	12,390,730	2,238,300	433,460	2,483,498	2,556,787	133,450	2,960
Rock	475	458	237,187	115,737	1,182,200	265,810	78,670	885,006	298,284	32,020	
Saline	2,229	2,206	361,891	296,823	10,307,880	1,894,610	479,260	1,757,389	2,300,837	103,210	190
Sarpy	1,075	1,030	141,190	123,682	5,778,000	923,820	205,360	959,494	1,241,890	135,620	1,890
Saunders	3,141	2,978	473,364	415,090	15,414,540	2,711,590	682,800	2,876,855	3,801,576	207,810	5,960
Scotts Bluff	421	404	174,082	39,490	992,730	189,780	83,970	921,352	335,681	30,180	160
Seward	2,285	2,165	359,565	315,418	9,958,610	1,879,950	466,420	1,937,303	2,454,486	182,270	5,480
Sheridan	955	921	717,242	136,021	1,688,770	291,820	114,590	3,059,730	785,494	77,060	1,020
Sherman	1,055	1,004	319,999	168,394	2,775,960	596,010	209,880	1,014,749	722,595	31,870	1,850
Sioux	427	408	249,549	84,364	938,930	216,680	57,190	1,664,155	282,456	54,880	50

TABLE 3.—NUMBER AND ACREAGE OF FARMS, AND VALUES OF SPECIFIED CLASSES OF FARM PROPERTY, JUNE 1, 1900, WITH VALUE OF PRODUCTS OF 1899 NOT FED TO LIVE STOCK, AND EXPENDITURES IN 1899 FOR LABOR AND FERTILIZERS, BY COUNTIES—Continued.

COUNTIES.	NUMBER OF FARMS.		ACRES IN FARMS.		VALUES OF FARM PROPERTY.				Value of products not fed to live stock.	EXPENDITURES.	
	Total.	With buildings.	Total.	Improved.	Land and improvements (except buildings).	Buildings.	Implements and machinery.	Live stock.		Labor.	Fertilizers.
Stanton	1,123	1,029	270,602	211,341	$6,010,190	$1,036,300	$273,520	$1,593,812	$1,630,179	$99,700	$1,020
Thayer	2,033	1,847	353,684	294,879	8,018,410	1,457,660	370,660	1,680,695	1,835,718	74,700	160
Thomas	74	69	45,874	17,022	128,390	27,010	12,320	369,523	51,037	11,010	
Thurston	855	753	214,251	132,526	4,988,620	340,750	178,500	1,820,393	975,747	48,550	1,490
Valley	1,085	1,045	311,278	174,060	8,144,120	564,970	191,480	934,150	844,823	49,440	
Washington	1,572	1,519	239,763	198,994	8,586,990	1,819,400	441,000	1,719,531	1,941,513	159,820	1,750
Wayne	1,401	1,303	270,449	233,048	7,428,740	1,153,280	354,450	1,960,656	1,858,666	101,690	1,090
Webster	1,731	1,612	348,235	272,744	5,421,870	1,164,220	348,680	1,778,040	1,639,699	70,270	160
Wheeler	269	262	193,570	52,449	711,500	141,740	52,550	746,599	228,090	13,060	
York	2,240	2,118	372,307	324,771	9,936,500	1,987,000	505,640	1,851,347	2,345,737	114,490	1,450

Nearly two-thirds of the counties report increases in the number of farms in the last decade, notwithstanding the frequent and severe droughts which occurred between 1890 and 1900, causing the abandonment of many farms in the central and western counties.

The total farm acreage increased in every county except Saline, Cass, and Perkins. The decrease in improved acreage reported in some of the counties is probably due to the fact, already mentioned, that the term "improved" was more strictly defined by the Twelfth than by any previous census. The average size of farms for the state is 246.1 acres. In the western counties, owing to the number of live-stock farms, many of which are more than 1,000 acres in extent, the average size of farms is greater than in the eastern counties where general farming prevails.

The average value of farms for the state is $4,753. In eleven counties in the northern part of the state, the value has more than doubled since 1890. Although decreased farm values are reported by a few western counties, increases in the value of implements and machinery are reported by nearly all counties. The average value of the implements and machinery was $205 per farm. In the northern counties which showed the largest increases in farm values, the gain in the value of live stock was also large. In more than one-sixth of the counties this value doubled, and, in the remainder, except in a few southern counties which reported slight decreases, it increased noticeably.

The average expenditure for labor in 1899, which was $61 for the state, varied greatly in the different counties. For fertilizers, the average expenditure per farm increased from $0.17 in 1889 to $1.26 in 1899. Most counties reported large increased expenditures.

FARM TENURE.

Table 4 gives a comparative exhibit of farm tenure for 1880, 1890, and 1900. Tenants are divided into two groups: "Cash tenants," who pay a rental in cash or a stated amount of labor or farm produce, and "share tenants," who pay as rental a stated share of the products.

In Table 5 the tenure of farms in 1900 is given by race of farmer. "Farms operated by owners" are subdivided into four groups designated as "owners," "part owners," "owners and tenants," and "managers." These groups comprise, respectively: (1) Farms operated by individuals who own all the land they cultivate; (2) farms operated by individuals who own a part of the land and rent the remainder from others; (3) farms operated under the joint direction and by the united labor of two or more individuals, one owning the farm or a part of it, and the other or others owning no part, but receiving for supervision or labor a share of the products; and (4) farms operated by individuals who receive for their supervision and other services a fixed salary from the owners.

TABLE 4.—NUMBER AND PER CENT OF FARMS OF SPECIFIED TENURES: 1880 TO 1900.

YEAR.	Total number of farms.	NUMBER OF FARMS OPERATED BY—			PER CENT OF FARMS OPERATED BY—		
		Owners.[1]	Cash tenants.	Share tenants.	Owners.[1]	Cash tenants.	Share tenants.
1900	121,525	76,715	11,599	33,211	63.1	9.6	27.3
1890	113,608	85,525	8,942	19,141	75.3	7.9	16.8
1880	68,387	51,963	1,948	9,476	82.0	3.1	14.9

[1] Including "part owners," "owners and tenants," and "managers."

TABLE 5.—NUMBER AND PER CENT OF FARMS OF SPECIFIED TENURES, JUNE 1, 1900, CLASSIFIED BY RACE OF FARMER.

PART 1.—NUMBER OF FARMS OF SPECIFIED TENURES.

RACE.	Total number of farms.	Owners.	Part owners.	Owners and tenants.	Managers.	Cash tenants.	Share tenants.
The State	121,525	51,911	22,518	1,154	1,132	11,599	33,211
White	121,196	51,654	22,501	1,153	1,128	11,585	33,175
Colored	329	257	17	1	4	14	36
Chinese	2	1				1	
Indian	249	226	3			3	17
Negro	78	30	14	1	4	10	19

PART 2.—PER CENT OF FARMS OF SPECIFIED TENURES.

The State	100.0	42.7	18.5	1.0	0.9	9.6	27.3
White	100.0	42.6	18.6	0.9	0.9	9.6	27.4
Colored	100.0	78.1	5.2	0.3	1.2	4.3	10.9

In the last decade, when the total number of farms increased 7.0 per cent, the number operated by owners decreased 10.3 per cent, while that operated by tenants of either class increased noticeably. Corresponding relative

losses and gains are shown in the percentages of the total number of farms operated by owners, cash tenants, and share tenants, respectively.

Of the total number of farms in 1900, 99.7 per cent were operated by white farmers, and 0.3 per cent by colored farmers. The percentage of farms operated by owners is relatively greater for colored than for white farmers, owing to the fact that the Indians, who constitute more than two-thirds of the "colored" class, possess land allotted them by the Government.

No previous census has reported the number of farms operated by "part owners," "owners and tenants," or "managers," but it is believed that the number of farms conducted by the last-named class is constantly increasing.

FARMS CLASSIFIED BY RACE OF FARMER AND BY TENURE.

Tables 6 and 7 present the principal statistics for farms classified by race of farmer and by tenure.

TABLE 6.—NUMBER AND ACREAGE OF FARMS, AND VALUE OF FARM PROPERTY, JUNE 1, 1900, CLASSIFIED BY RACE OF FARMER AND BY TENURE, WITH PERCENTAGES.

RACE OF FARMER, AND TENURE.	Number of farms.	NUMBER OF ACRES IN FARMS.			VALUE OF FARM PROPERTY.	
		Average.	Total.	Per cent.	Total.	Per cent.
The State	121,525	246.1	29,911,779	100.0	$747,950,057	100.0
White farmers	121,196	246.4	29,865,004	99.8	747,010,547	99.9
Negro farmers	78	193.2	15,067	0.1	278,081	(2)
Indian farmers[1]	251	126.3	31,708	0.1	661,429	0.1
Owners	51,911	219.9	11,417,248	38.2	317,183,817	42.4
Part owners	22,518	384.4	8,656,029	28.9	162,191,190	21.7
Owners and tenants	1,154	330.5	381,408	1.3	8,301,130	1.1
Managers	1,132	1,194.9	1,352,589	4.5	27,538,970	3.7
Cash tenants	11,599	181.8	2,108,673	7.1	66,628,920	8.9
Share tenants	33,211	180.5	5,995,832	20.0	166,106,030	22.2

[1] Including 2 Chinese.
[2] Less than one-tenth of 1 per cent.

TABLE 7.—AVERAGE VALUES OF SPECIFIED CLASSES OF FARM PROPERTY, AND AVERAGE GROSS INCOME PER FARM, WITH PER CENT OF GROSS INCOME ON TOTAL INVESTMENT IN FARM PROPERTY, CLASSIFIED BY RACE OF FARMER AND BY TENURE.

RACE OF FARMER, AND TENURE.	AVERAGE VALUES PER FARM OF—					
	Farm property, June 1, 1900.				Gross income (products of 1899 not fed to live stock).	Per cent of gross income on total investment in farm property.
	Land and improvements (except buildings).	Buildings.	Implements and machinery.	Live stock.		
The State	$4,004	$750	$205	$1,196	$1,026	16.7
White farmers	4,009	751	206	1,198	1,028	16.7
Negro farmers	2,239	324	123	879	546	15.3
Indian farmers[1]	2,068	255	103	210	149	5.6
Owners	3,839	915	199	1,157	992	16.2
Part owners	4,428	773	254	1,748	1,237	17.2
Owners and tenants	4,636	945	265	1,347	1,201	16.7
Managers	12,629	1,977	366	9,356	6,188	25.4
Cash tenants	4,056	556	183	949	886	15.4
Share tenants	3,642	492	182	686	788	16.0

[1] Including 2 Chinese.

More than 60 per cent of the farms in the state are operated by owners and part owners, about three-fifths of the total farm acreage and of the total value of farm property being accredited to these two classes. However, the average size, the average values of all forms of farm property, and the per cent of gross income are greater for farms operated by managers than for any other group. These conditions are due, in part, to the fact that many of these farms are large stock farms, while others are adjuncts to public institutions.

Among the colored farmers the Indians outnumber the negroes, but the average acreage, and the average value of farm property, as well as the per cent of gross income, are greater for the latter.

FARMS CLASSIFIED BY AREA.

Tables 8 and 9 present the principal statistics for farms classified by area.

TABLE 8.—NUMBER AND ACREAGE OF FARMS, AND VALUE OF FARM PROPERTY, JUNE 1, 1900, CLASSIFIED BY AREA, WITH PERCENTAGES.

AREA.	Number of farms.	NUMBER OF ACRES IN FARMS.			VALUE OF FARM PROPERTY.	
		Average.	Total.	Per cent.	Total.	Per cent.
The State	121,525	246.1	29,911,779	100.0	$747,950,057	100.0
Under 3 acres	530	2.4	1,293	(1)	1,088,820	0.1
3 to 9 acres	1,342	6.7	8,999	(1)	2,154,840	0.3
10 to 19 acres	1,635	12.8	20,911	0.1	2,955,590	0.4
20 to 49 acres	5,243	35.2	184,424	0.6	11,304,230	1.5
50 to 99 acres	17,979	76.0	1,367,012	4.6	57,283,490	7.7
100 to 174 acres	46,109	151.3	6,978,190	23.3	224,902,527	30.1
175 to 259 acres	17,855	216.1	3,858,463	12.9	129,068,650	17.2
260 to 499 acres	22,416	357.2	8,006,863	26.8	189,058,210	25.3
500 to 999 acres	6,052	685.9	4,150,909	13.9	69,386,260	9.3
1,000 acres and over	2,364	2,256.6	5,334,715	17.8	60,747,440	8.1

[1] Less than one-tenth of 1 per cent.

TABLE 9.—AVERAGE VALUES OF SPECIFIED CLASSES OF FARM PROPERTY, AND AVERAGE GROSS INCOME PER FARM, WITH PER CENT OF GROSS INCOME ON TOTAL INVESTMENT IN FARM PROPERTY, CLASSIFIED BY AREA.

AREA.	AVERAGE VALUES PER FARM OF—					
	Farm property, June 1, 1900.				Gross income (products of 1899 not fed to live stock).	Per cent of gross income on total investment in farm property.
	Land and improvements (except buildings).	Buildings.	Implements and machinery.	Live stock.		
The State	$4,004	$750	$205	$1,196	$1,026	16.7
Under 3 acres	432	524	47	1,051	442	21.5
3 to 9 acres	677	639	61	229	308	19.2
10 to 19 acres	843	635	65	265	281	15.6
20 to 49 acres	1,249	490	86	331	395	18.3
50 to 99 acres	2,129	481	129	447	542	17.0
100 to 174 acres	3,285	636	192	765	806	16.5
175 to 259 acres	4,978	912	259	1,080	1,164	16.1
260 to 499 acres	6,629	969	245	1,591	1,366	16.2
500 to 999 acres	7,018	1,081	335	3,031	1,801	15.7
1,000 acres and over	12,812	1,600	404	10,881	5,194	20.2

The relative frequency of quarter-section holdings is evident from the fact that the group of farms containing 100 to 174 acres each comprised more than one-third of all those in the state, and represented nearly one-fourth of the total acreage and one-third of the total value of all farm property in the state.

With few exceptions the average values of all forms of farm property increase with the size of the farms. The relatively high average value of live stock, and the high average gross income for farms under 3 acres are due to the fact that this class comprises for the most part dairy and truck farms supplying city markets, and includes 25 of the 38 florists' establishments in the state. For these industries the incomes depend less upon the acreage used than upon the amount invested in buildings, implements, and live stock, and the amount expended for labor and fertilizers.

The average gross incomes per acre for the various groups classified by area, are as follows: Farms under 3 acres, $181.33; 3 to 9 acres, $45.97; 10 to 19 acres, $21.99; 20 to 49 acres, $11.24; 50 to 99 acres, $7.13; 100 to 174 acres, $5.32; 175 to 259 acres, $5.39; 260 to 499 acres, $5.83; 500 to 999 acres, $2.63; 1,000 acres and over, $2.30.

FARMS CLASSIFIED BY PRINCIPAL SOURCE OF INCOME.

In Tables 10 and 11 the farms are classified by principal source of income. If the value of the hay and grain raised on any farm exceeds that of any other crop and constitutes at least 40 per cent of the total value of products not fed to live stock, the farm is designated a "hay and grain" farm. If vegetables are the leading crop, constituting 40 per cent of the value of the products, it is a "vegetable" farm. The farms of the other groups are classified in accordance with the same general principle. "Miscellaneous" farms are those whose operators do not derive 40 per cent of their income from any one class of farm products. Farms reporting no income in 1899 are classified according to the agricultural operations upon other farms in the same locality.

TABLE 10.—NUMBER AND ACREAGE OF FARMS, AND VALUE OF FARM PROPERTY, JUNE 1, 1900, CLASSIFIED BY PRINCIPAL SOURCE OF INCOME, WITH PERCENTAGES.

PRINCIPAL SOURCE OF INCOME.	Number of farms.	NUMBER OF ACRES IN FARMS.			VALUE OF FARM PROPERTY.	
		Average.	Total.	Per cent.	Total.	Per cent.
The State	121,525	246.1	29,911,779	100.0	$747,950,057	100.0
Hay and grain	59,509	192.9	11,477,161	38.4	350,640,840	46.9
Vegetables	978	90.6	88,648	0.3	2,844,230	0.4
Fruits	285	46.6	13,281	(1)	1,022,060	0.1
Live stock	53,895	317.8	17,128,839	57.3	367,390,827	49.1
Dairy produce	2,833	216.8	614,328	2.1	11,567,430	1.6
Sugar	101	122.2	12,339	(1)	514,300	0.1
Flowers and plants	38	6.3	241	(1)	248,805	(1)
Nursery products	44	90.8	3,975	(1)	802,910	(1)
Miscellaneous	3,842	149.1	572,967	1.9	13,418,655	1.8

[1] Less than one-tenth of 1 per cent.

TABLE 11.—AVERAGE VALUES OF SPECIFIED CLASSES OF FARM PROPERTY, AND AVERAGE GROSS INCOME PER FARM, WITH PER CENT OF GROSS INCOME ON TOTAL INVESTMENT IN FARM PROPERTY, CLASSIFIED BY PRINCIPAL SOURCE OF INCOME.

PRINCIPAL SOURCE OF INCOME.	AVERAGE VALUES PER FARM OF—					Per cent of gross income on total investment in farm property.
	Farm property, June 1, 1900.				Gross income (products of 1899 not fed to live stock).	
	Land and improvements (except buildings).	Buildings.	Implements and machinery.	Live stock.		
The State	$4,004	$750	$205	$1,196	$1,026	16.7
Hay and grain	4,219	658	199	816	891	15.1
Vegetables	1,908	499	110	391	610	21.0
Fruits	2,341	850	85	310	487	13.6
Live stock	4,030	873	225	1,689	1,254	18.4
Dairy produce	2,352	567	130	1,034	439	10.8
Sugar	3,671	640	152	629	1,008	19.8
Flowers and plants	3,061	3,194	222	71	3,349	51.2
Nursery products	4,993	1,518	161	212	5,528	89.3
Miscellaneous	2,183	590	125	595	427	12.2

For the several classes of farms the average values per acre of all products not fed to live stock are as follows: Farms whose operators derive their principal income from flowers and plants, $528.13; nursery products, $61.20; fruits, $10.46; sugar, $8.25; vegetables, $6.73; hay and grain, $4.62; live stock, $3.95; miscellaneous, $2.87; dairy, $2.03. In computing these averages the total acreage is used, and not the acreage devoted to the crop from which the principal income is derived. The wide variations in the averages and percentages of gross income are due largely to the fact that no deductions from the gross income are made for expenditures. For florists' establishments and nurseries, the average expenditure for such items as labor and fertilizers represents a far greater percentage of the gross income than in the case of "live-stock" and "miscellaneous" farms. If it were possible to present the average net income, the variations shown would be comparatively slight.

FARMS CLASSIFIED BY REPORTED VALUE OF PRODUCTS NOT FED TO LIVE STOCK.

Tables 12 and 13 present data relating to farms classified by the reported gross income, or value of products not fed to live stock.

TABLE 12.—NUMBER AND ACREAGE OF FARMS, AND VALUE OF FARM PROPERTY, JUNE 1, 1900, CLASSIFIED BY REPORTED VALUE OF PRODUCTS NOT FED TO LIVE STOCK, WITH PERCENTAGES.

VALUE OF PRODUCTS NOT FED TO LIVE STOCK.	Number of farms.	NUMBER OF ACRES IN FARMS.			VALUE OF FARM PROPERTY.	
		Average.	Total.	Per cent.	Total.	Per cent.
The State	121,525	246.1	29,911,779	100.0	$747,950,057	100.0
$0	1,245	301.9	375,907	1.3	6,327,030	0.8
$1 to $49	1,288	162.1	208,688	0.7	2,587,710	0.4
$50 to $99	2,359	153.5	362,055	1.2	4,725,770	0.6
$100 to $249	9,287	165.8	1,539,639	5.1	22,114,230	3.0
$250 to $499	20,558	176.4	3,627,294	12.1	64,288,625	8.6
$500 to $999	41,507	200.2	8,307,789	27.8	199,298,010	26.6
$1,000 to $2,499	38,998	274.4	10,699,253	35.8	324,570,832	43.4
$2,500 and over	6,333	757.8	4,799,154	16.0	124,037,820	16.6

TABLE 13.—AVERAGE VALUES OF SPECIFIED CLASSES OF FARM PROPERTY, AND AVERAGE GROSS INCOME PER FARM, WITH PER CENT OF GROSS INCOME ON TOTAL INVESTMENT IN FARM PROPERTY, CLASSIFIED BY REPORTED VALUE OF PRODUCTS NOT FED TO LIVE STOCK.

VALUE OF PRODUCTS NOT FED TO LIVE STOCK.	AVERAGE VALUES PER FARM OF—					
	Farm property, June 1, 1900.				Gross income (products of 1899 not fed to live stock).	Per cent of gross income on total investment in farm property.
	Land and improvements (except buildings).	Buildings.	Implements and machinery.	Live stock.		
The State	$4,094	$750	$205	$1,196	$1,026	16.7
$0	2,568	187	61	2,266		
$1 to $49	1,134	263	64	629	37	1.8
$50 to $99	1,108	279	67	549	66	3.3
$100 to $249	1,373	336	91	581	170	7.1
$250 to $499	1,971	421	123	612	368	11.8
$500 to $999	3,182	618	180	822	688	14.3
$1,000 to $2,499	5,612	1,027	278	1,406	1,396	16.8
$2,500 and over	11,873	1,946	468	5,299	5,104	26.1

In view of the fact that about half the farms reporting no income for 1899 were owned farms between 100 and 175 acres in size, it is probable that this class included many homesteads taken up too late for cultivation that year. Some were live-stock farms on which the stock ranged during the entire year, and the crops of others were failures on account of drought or other unusual conditions. There were some farms, also, from which no reports of the products could be secured, as the persons in charge, June 1, 1900, did not operate them in 1899 and could give no information concerning the products of that year. To this extent the reports fall short of giving a complete statement of farm products in 1899.

LIVE STOCK.

At the request of the various live-stock associations of the country, a new classification of domestic animals was adopted for the Twelfth Census. The age grouping for neat cattle was determined by their present and prospective relations to the dairy industry and the supply of meat products. Horses and mules are classified by age, and neat cattle and sheep by age and sex. The new classification permits a very close comparison with previous census reports.

Table 14 presents a summary of live-stock statistics.

TABLE 14.—DOMESTIC ANIMALS, FOWLS, AND BEES ON FARMS, JUNE 1, 1900, WITH TOTAL AND AVERAGE VALUES, AND NUMBER OF DOMESTIC ANIMALS NOT ON FARMS.

LIVE STOCK.	Age in years.	ON FARMS.			NOT ON FARMS.
		Number.	Value.	Average value.	Number.
Calves	Under 1	754,500	$8,757,661	$11.61	5,627
Steers	1 and under 2	401,158	9,303,685	23.19	1,693
Steers	2 and under 3	317,360	10,991,720	34.63	1,668
Steers	3 and over	119,590	5,690,337	47.58	4,349
Bulls	1 and over	51,791	2,567,438	49.57	422
Heifers	1 and under 2	345,275	7,413,817	21.47	2,060
Cows kept for milk	2 and over	512,544	17,192,120	33.54	26,312
Cows and heifers not kept for milk.	2 and over	674,025	20,552,720	30.49	1,868
Colts	Under 1	66,776	1,284,984	19.24	1,517
Horses	1 and under 2	73,082	2,316,583	31.70	1,271
Horses	2 and over	655,460	33,061,792	50.44	65,833
Mule colts	Under 1	6,201	182,875	29.49	398
Mules	1 and under 2	6,671	293,356	43.97	160
Mules	2 and over	42,252	2,695,229	63.79	2,242
Asses and burros	All ages	732	116,756	159.50	308
Lambs	Under 1	175,323	330,358	1.88	188
Sheep (ewes)	1 and over	279,073	1,102,871	3.95	5,401
Sheep (rams and wethers).	1 and over	56,877	245,269	4.31	492
Swine	All ages	4,128,000	18,660,932	4.52	93,094
Goats	All ages	2,399	9,126	3.80	384
Fowls:[1]					
Chickens[2]		7,417,837			
Turkeys		118,892	2,374,930		
Geese		74,007			
Ducks		201,503			
Bees (swarms of)		52,143	199,563	3.83	
Unclassified			5,465		
Value of all live stock.			145,349,587		

[1] The number reported is of fowls over 3 months old. The value is of all, old and young.
[2] Including Guinea fowls.

The value of all live stock on farms, June 1, 1900, was $145,349,587. Of this amount, 44.9 per cent represents the value of neat cattle other than dairy cows; 25.2 per cent, that of horses; 12.9 per cent, that of swine; 11.8 per cent, that of dairy cows; 2.2 per cent, that of mules; 1.6 per cent, that of poultry; 1.2 per cent, that of sheep; and 0.2 per cent, that of all other live stock.

At the time of the enumeration the prices of all neat cattle were high owing to the great demand for beef cattle then prevalent. Nearly 70.0 per cent of the value of animal products in 1899 was received from the sale of live animals.

No reports were secured of the value of live stock not on farms, but it is probable that such animals have higher average values than those on farms. If the same averages are allowed, the value of all live stock not on farms would be $5,420,843, and the total value of live stock in the

state, exclusive of poultry and bees not on farms, is approximately $150,770,430.

The number of horses two years old and over, kept in towns and cities, is more than one-tenth of the number used in agricultural operations. Nearly one-half the total number of domestic animals in the state are swine, the average number per farm being 35.

CHANGES IN LIVE STOCK ON FARMS.

The following table shows the changes since 1860 in the numbers of the most important domestic animals.

TABLE 15.—NUMBER OF SPECIFIED DOMESTIC ANIMALS ON FARMS: 1860 TO 1900.

YEAR.	Dairy cows.	Other neat cattle.	Horses.	Mules and asses.	Sheep.[1]	Swine.
1900	512,544	2,668,699	795,318	55,856	335,950	4,128,000
1890	505,045	1,637,552	626,789	46,512	209,243	3,815,647
1880	161,187	597,363	204,864	19,999	199,453	1,241,724
1870	28,940	50,988	30,511	2,632	22,725	59,449
1860	6,995	30,202	4,449	469	2,365	25,369

[1] Lambs not included.

Table 15 shows an uninterrupted progress in the live-stock industry for the forty years succeeding 1860. Increases from decade to decade are indicated in the numbers of every class. From 1890 to 1900 the numbers of domestic animals increased as follows: Neat cattle, other than dairy cows, 62.7 per cent; sheep, 60.6 per cent; horses, 26.9 per cent; mules and asses, 20.1 per cent; swine, 8.2 per cent; and dairy cows, 1.5 per cent. The small percentage of increase in the number of dairy cows is probably due to a difference between the methods of enumeration employed in 1890 and 1900. In the latter year, doubtless, many milch cows dry at the time of enumeration, and cows milked at some time during the year, though not "kept for milk" primarily, were included in the group "cows and heifers not kept for milk," while in 1890 the term "dairy cows" was less restricted. The very large percentage of increase in the number of "other neat cattle" is probably due in part to the fact that 754,500 calves are included in this class, while it is uncertain whether calves were reported under this head in 1890.

In comparing the poultry report of 1900 (see Table 14) with that of 1890, it should be borne in mind that in 1900 the enumerators were instructed to report no fowls under three months old, while in 1890 no such limitation was made. This fact explains to a great extent the apparently small increases of 6.0 per cent and 0.3 per cent, respectively, in the numbers of chickens and geese, and the decreases of 45.6 per cent and 26.7 per cent, respectively, in the numbers of turkeys and ducks. The fact that nearly twice as many eggs were reported in 1900 as in 1890 tends to confirm the statement that these decreases were only apparent.

ANIMAL PRODUCTS.

Table 16 is a summarized statement of the animal products of agriculture.

TABLE 16.—QUANTITIES AND VALUES OF SPECIFIED ANIMAL PRODUCTS, AND VALUES OF POULTRY RAISED, ANIMALS SOLD, AND ANIMALS SLAUGHTERED ON FARMS, IN 1899.

PRODUCTS.	Unit of measure.	Quantity.	Value.
Wool	Pounds	2,788,839	$426,311
Mohair and goat hair	Pounds	5,801	1,725
Milk	Gallons	[1] 190,477,911	[2] 8,595,408
Butter	Pounds	34,518,059	
Cheese	Pounds	264,430	
Eggs	Dozens	41,132,140	4,068,002
Poultry			3,499,044
Honey	Pounds	866,200	105,676
Wax	Pounds	16,090	
Animals sold			49,022,401
Animals slaughtered			4,508,457
Total			70,227,060

[1] Comprises all milk produced, whether sold, consumed, or made into butter or cheese.
[2] Comprises the value of milk sold and consumed, and of butter and cheese made.

The value of the animal products of the state in 1899 was $70,227,060, or 43.2 per cent of the value of all farm products, and 56.3 per cent of the gross farm income. Of the total value, 69.8 per cent represents the value of animals sold; 6.4 per cent, that of animals slaughtered on farms; 12.2 per cent, that of dairy products; 10.8 per cent, that of poultry and eggs; 0.6 per cent, that of wool, mohair, and goat hair; and 0.2 per cent, that of honey and wax.

ANIMALS SOLD AND ANIMALS SLAUGHTERED.

The value of animals sold and animals slaughtered on farms in 1899 was $53,530,861, or 42.9 per cent of the gross farm income. Of all farmers reporting live stock, 94,486, or 79.4 per cent, report sales of live animals, the average receipts per farm being $518.83. Animals slaughtered are reported by 93,874 farmers, or 78.9 per cent of all those reporting live stock. The average value per farm was $48.03. In obtaining these reports, the enumerators were instructed to secure from each farmer a statement of the amount received from sales in 1899, less the amount paid for animals purchased during the year.

DAIRY PRODUCTS.

Of the $8,595,408 given in Table 16 as the value of dairy products, $4,137,009, or 48.1 per cent, represents the value of such products consumed on farms, and $4,458,399, or 51.9 per cent, the amount realized from sales. Of the latter amount, $2,393,089 was received from the sale of 18,236,897 pounds of butter; $1,664,741, from 23,492,560 gallons of milk; $379,188, from 885,056 gallons of cream; and $21,381, from 214,873 pounds of cheese.

In 1899, 45,709,648 gallons more milk were produced than in 1889, a gain of 31.6 per cent. In the same time the amount of butter produced on farms increased 24.1 per cent, while that of cheese produced on farms decreased 43.0 per cent. Lancaster county leads in the production of milk and butter, Douglas in sales of milk, and Holt in sales of cream; Platte and Pierce counties produce nearly one-third of the cheese made on farms in the state.

POULTRY AND EGGS.

Lancaster, Saline, Saunders, Gage, and Otoe counties each reported more than a million dozen eggs produced in 1899, while the production for the state was 41,132,140 dozens, an increase of 76.5 per cent over that of 1889. Of the $7,567,046 given as the value of poultry products, 53.8 per cent represents the value of eggs, and 46.2 per cent, that of poultry raised in 1899.

WOOL.

The production of wool for 1899 was more than double that of any previous census year, and more than three times as great as in 1889. The largest quantities reported were from Hall, Kimball, Sheridan, and Dawes counties. The average weight of fleeces in 1889 was 6.7 pounds, and in 1899, 6.8 pounds.

HONEY AND WAX.

In 1900, 12,130 farmers reported bees. The production of honey for 1899 was 866,200 pounds, 16.1 per cent more than that of 1889, and that of wax was more than twice the quantity reported ten years before.

HORSES AND DAIRY COWS ON SPECIFIED CLASSES OF FARMS.

Table 17 presents, for the leading groups of farms, the number of farms reporting horses and dairy cows, the total number of these animals, and the average number per farm. In computing the averages presented, only those farms which report the kind of stock under consideration are included.

TABLE 17.—HORSES AND DAIRY COWS ON SPECIFIED CLASSES OF FARMS, JUNE 1, 1900.

CLASSES.	HORSES.			DAIRY COWS.		
	Farms reporting.	Number.	Average per farm.	Farms reporting.	Number.	Average per farm.
Total	116,129	795,818	6.8	105,918	512,544	4.8
White farmers	115,811	793,846	6.9	105,821	512,292	4.8
Colored farmers	318	1,972	6.2	92	252	2.7
Owners[1]	72,725	544,202	7.5	68,854	369,678	5.4
Managers	1,026	18,564	18.1	819	4,256	5.2
Cash tenants	10,952	63,611	5.8	9,620	42,436	4.4
Share tenants	31,426	168,941	5.4	26,620	96,179	3.6
Under 20 acres	2,641	7,046	2.7	2,288	5,618	2.5
20 to 99 acres	20,818	77,498	3.7	17,060	50,993	3.0
100 to 174 acres	45,026	238,357	5.3	40,822	170,350	4.2
175 to 259 acres	17,465	121,128	6.9	16,814	89,218	5.3
260 acres and over	30,179	351,289	11.6	28,929	196,370	6.8
Hay and grain	56,042	322,956	5.8	48,992	197,843	4.0
Vegetable	845	3,173	3.8	567	1,411	2.5
Fruit	176	521	3.0	134	318	2.4
Live stock	52,705	435,357	8.3	50,401	277,869	5.5
Dairy	2,675	15,563	5.8	2,833	23,611	8.3
Miscellaneous[2]	3,686	17,748	4.8	2,986	11,492	3.8

[1] Including "part owners" and "owners and tenants."
[2] Including florists' establishments and nurseries.

CROPS.

The following table gives the statistics of the principal crops of 1899.

TABLE 18.—ACREAGES, QUANTITIES, AND VALUES OF THE PRINCIPAL FARM CROPS IN 1899.

CROPS.	Acres.	Unit of measure.	Quantity.	Value.
Corn	7,335,187	Bushels	210,974,740	$51,251,213
Wheat	2,588,949	Bushels	24,924,520	11,877,347
Oats	1,924,827	Bushels	58,007,140	11,333,393
Barley	92,098	Bushels	2,034,910	545,482
Rye	178,920	Bushels	1,901,820	712,759
Buckwheat	980	Bushels	8,629	5,109
Flaxseed	7,652	Bushels	54,894	58,793
Kafir corn	742	Bushels	13,607	5,189
Clover seed		Bushels	8,156	37,352
Grass seed		Bushels	41,816	32,450
Hay and forage	2,823,652	Tons	3,517,495	11,230,901
Chicory	124	Pounds	1,314,000	4,057
Tobacco	14	Pounds	5,765	610
Hemp	638	Pounds	305,400	10,752
Hops		Pounds	50	4
Broom corn	6,627	Pounds	2,733,290	106,252
Peanuts	11	Bushels	221	256
Dry beans	887	Bushels	7,669	12,805
Dry pease	126	Bushels	1,586	2,041
Potatoes	79,901	Bushels	7,817,438	1,734,666
Sweet potatoes	551	Bushels	48,224	27,933
Onions	488	Bushels	84,628	55,159
Miscellaneous vegetables	34,044			1,383,470
Sorghum cane	4,778	Tons	12,802	41,824
Sorghum sirup		Gallons	92,413	32,993
Sugar beets	8,662	Tons	62,470	222,258
Small fruits	1,171			98,159
Grapes	[1]2,766	Centals	31,710	[2]74,707
Orchard fruits	[1]104,486	Bushels		[3]684,751
Nuts				1,595
Forest products				412,746
Flowers and plants	86			142,686
Seeds	2,276			77,495
Nursery products	1,594			234,033
Miscellaneous	1,719			23,206
Total	15,153,956			92,469,326

[1] Estimated from number of vines or trees.
[2] Including value of raisins, wine, etc.
[3] Including value of cider, vinegar, etc.

The total number of acres devoted to crops in 1899 was 15,153,956 and the total value $92,469,326. Of these items, the major portion was contributed by cereals, and hay and forage. Of the total acreage, 79.7 per cent was devoted to cereals, including Kafir corn, and 18.6 per cent to hay and forage. Of the total value, 81.9 per cent is the value of cereals, including Kafir corn, and 12.1 per cent that of hay and forage. The percentages of the total value furnished by the remaining crops are as follows: Vegetables, including potatoes, sweet potatoes, and onions, 3.5 per cent; fruits, nuts, and forest products, 1.4 per cent; and all other products, 1.1 per cent.

The average values per acre of the various crops were as follows: Flowers and plants, $1,658.56; onions, $113.03; small fruits, $83.82; vegetables, including sweet potatoes, $40.80; potatoes, $21.71; cereals, including Kafir corn, $6.27; and hay and forage, $3.98. The crops yielding the highest returns per acre were grown upon very highly improved land. Their production, therefore, required a relatively great amount of labor and large expenditures for fertilizers.

CEREALS.

Table 19 is an exhibit of the changes in cereal production since 1859.

TABLE 19.—ACREAGE AND PRODUCTION OF CEREALS: 1859 TO 1899.

PART 1.—ACREAGE.

YEAR.[1]	Barley.	Buckwheat.	Corn.	Oats.	Rye.	Wheat.
1899	92,098	980	7,335,187	1,924,827	178,920	2,538,949
1889	82,590	15,358	5,480,279	1,503,515	81,372	798,855
1879	115,201	1,666	1,630,660	250,457	34,297	1,469,865

[1] No statistics of acreage were secured prior to 1879.

PART 2.—BUSHELS PRODUCED.

1899	2,034,910	8,629	210,974,740	58,007,140	1,901,820	24,924,520
1889	1,822,111	120,000	15,895,996	43,848,640	1,085,083	10,571,059
1879	1,744,686	17,562	65,450,135	6,555,875	424,348	13,847,007
1869	216,481	3,471	4,736,710	1,477,562	13,532	2,125,086
1859	1,108	12,224	1,482,080	74,502	2,495	147,867

The middle of the last century marked the opening of great areas of land in the West, well adapted to the cultivation of cereals, and since that time there has been a steady increase in their production.

The total area devoted to cereals has increased from 3,502,146 acres in 1879 to 12,070,961 acres in 1899. The acreage in corn in 1899 was over four times as great as that in 1879. During the same period the area under wheat increased 72.7 per cent, and that under oats became nearly eight times as large as in 1879. The acreage devoted to rye was over five times as large in 1899 as in 1879, but, in the same time, that of barley decreased 20.1 per cent.

As shown in the second part of the table, larger crops of corn, wheat, oats, rye, and barley were grown in 1899 than during any previous year, while the largest yield of buckwheat was in 1889.

Corn, oats, and rye were most extensively raised in the eastern part of the state. In the production of corn, which was reported in 1899 in every county, Gage and Saunders counties led with more than 8,000,000 bushels each. The crop of oats, which in 1899 was an important crop in nearly every county, amounted in Seward, Gage, Butler, Platte, and York counties to 2,000,000 bushels each. Rye was also raised in most of the counties, the largest returns coming from Merrick, Boone, and York counties, respectively. Of barley, which was generally cultivated, especially in the northeast section of the state, York county reported the greatest production. Wheat was produced, with few exceptions, throughout the state. Clay and Adams counties gave the largest yields, each reporting more than 1,000,000 bushels for 1899.

Kafir corn was reported in 1900 by 125 farmers, who had a total of 742 acres, with a yield of 13,607 bushels.

HAY AND FORAGE.

In 1900, 84,849 farmers, or 69.8 per cent of the total number, reported hay and forage crops. Exclusive of cornstalks, an average yield of 1.2 tons per acre was obtained. The total area in hay and forage for 1899 was 2,823,652 acres, or 14.7 per cent greater than ten years before. Of this acreage, 79.6 per cent, or 2,248,927 acres, produced 2,416,468 tons of wild, salt, and prairie grasses. The acreages and yields of the various other kinds of hay and forage were as follows: Millet and Hungarian grasses, 191,347 acres and 357,356 tons; alfalfa or lucern, 115,142 acres and 275,334 tons; clover, 42,447 acres and 72,747 tons; other tame and cultivated grasses, 92,895 acres and 143,109 tons; grains cut green for hay, 42,066 acres and 54,269 tons; crops grown for forage, 90,828 acres and 183,097 tons; and cornstalks, 15,143 acres and 15,115 tons.

In Table 18 the production of cornstalks is included under "hay and forage," but the acreage is included under "corn," as the forage secured was only an incidental product of the land devoted to the corn crop.

BROOM CORN.

In 1899 the cultivation of broom corn was reported by 270 farmers, who used 6,627 acres in the production of 2,733,290 pounds of broom corn, valued at $106,252. This output shows a decrease of 3,781,473 pounds, or 58.0 per cent, since 1890. More than one-half of the total product of the state in 1899 was grown in the three counties of Cass, Polk, and Saunders.

FLAX.

Flax was grown in 1899 by 245 farmers, the area employed being 7,652 acres, and the yield 54,394 bushels of seed, valued at $53,793. Large decreases are shown for the past ten years, the acreage of 1899 being only about one-twentieth of that reported in 1889, while the production is but one-twenty-fifth as great. The average yield per acre dropped from 8.5 bushels of seed in 1889 to 7.1 bushels in 1899. The average area per farm reporting in 1899 was 31.2 acres, and the average value of crops, $220.

Of the total acreage, about three-fourths lies in the extreme northeastern counties of Dixon, Cedar, Burt, Thurston, Wayne, and Knox, ranking in the order named.

ORCHARD FRUITS.

The changes in orchard fruits since 1890 are shown in the following table.

TABLE 20.—ORCHARD TREES AND FRUITS: 1890 AND 1900.

FRUITS.	NUMBER OF TREES.		BUSHELS OF FRUIT.	
	1900.	1890.	1899.	1889.
Apples	3,877,329	1,283,367	1,343,497	1,172,935
Apricots	27,831	3,250	333	223
Cherries	607,017	175,944	54,047	18,601
Peaches	1,055,959	144,701	8,753	19,742
Pears	58,047	6,313	979	1,114
Plums and prunes	542,450	227,129	42,314	15,828

Most of the fruit trees in Nebraska are grown in the southeastern portion of the state below the Platte River. In the last decade there has been a gain of 4,399,414 in the total number of fruit trees, which increased from 1,840,704 to 6,240,118 in that time. About three-fifths of this gain represents the increase in apple trees, the number of which in 1900 was more than three times as great.

as that of ten years before. Otoe, Richardson, and Cass counties reported the largest number of these trees.

The number of peach trees has increased more than six-fold during the decade, forming 7.9 per cent of the total number of orchard trees in 1890, and 16.9 per cent in 1900. The largest numbers were grown in Gage and Nemaha counties. Since 1890 cherry trees have increased in number nearly two and a half times, plum and prune trees have more than doubled, and pear and apricot trees each have gained approximately eightfold.

In addition to the number of trees given in Table 20, unclassified fruit trees to the number of 71,485 were reported, with a yield of 6,130 bushels of fruit.

The total value of the orchard products in 1899 was $684,751, which includes the value of 5,212 barrels of cider, 2,163 barrels of vinegar, and 30,240 pounds of dried and evaporated fruits.

Since the quantity of fruit produced in any year is determined largely by the nature of the season, comparisons between the crops of the different years have little significance.

SMALL FRUITS.

The total area used in the cultivation of small fruits in 1899 was 1,171 acres, distributed among 7,690 farms. The value of the fruit grown was $98,159, an average of $12.76 per farm. The acreages and production of the various berries were as follows: Strawberries, 369 acres and 408,350 quarts; raspberries and Logan berries, 230 acres and 232,580 quarts; gooseberries, 192 acres and 189,680 quarts; blackberries and dewberries, 152 acres and 157,880 quarts; currants, 161 acres and 162,880 quarts; and all other berries, 67 acres and 60,260 quarts.

VEGETABLES.

The value of all vegetables grown in the state in 1899, including potatoes, sweet potatoes, and onions, was $3,201,228. Of this amount 54.2 per cent represents the value of Irish potatoes. This important crop was reported by 80,607 farmers, or 66.3 per cent of the total number in the state. In addition to the land devoted to potatoes and onions 34,044 acres were used in the growing of miscellaneous vegetables. From 21,160 acres of this area the products were not reported in detail. Of the remaining 12,884 acres, concerning which detailed reports were received, 6,219 acres were devoted to sweet corn; 2,216, to watermelons; 1,430, to cabbages; 914, to tomatoes; 749, to cucumbers; 653, to muskmelons; 238, to beets; 122, to squashes; 104, to celery; 94, to pumpkins; and 145, to other vegetables.

SUGAR BEETS.

Though the sugar-beet industry began only in the last decade in Nebraska, it is rapidly becoming an important branch of agriculture.

In 1899, 535 farmers devoted to this crop an area of 8,662 acres, an average of 16.2 acres per farm. The total production was 62,470 tons of beets, an average yield of 7.2 tons per acre, and the total value was $222,258, an average of $415 per farm, $26 per acre, and $3.56 per ton.

Of the 90 counties in the state, 41 report the production of sugar beets. Dodge, Hall, Madison, and Merrick, ranking in the order named, reported 77.7 per cent of the total acreage.

SORGHUM CANE.

Sorghum cane was grown by 1,791 farmers in 1899, 4,778 acres being devoted to its cultivation, an average of 2.7 acres for each farm reporting. The producers sold 12,802 tons of cane for $41,824, and from the remaining product manufactured 92,413 gallons of sirup, valued at $32,993. In spite of a decrease in acreage of 61.8 per cent since 1889, the total value of the sorghum-cane products amounted to $74,817, an average of $42 for each farm reporting. The average yield per acre of the sirup was 19.3 gallons, and the average value per gallon, $0.36.

The crop was distributed over 78 counties in the state, Jefferson county, with 445 acres, having the largest area under cultivation.

FLORICULTURE.

The area devoted to the cultivation of flowers and ornamental plants in 1899 was 86 acres, and the value of the products sold therefrom was $142,636. These flowers and plants were grown by 73 farmers and florists, 38 of whom made commercial floriculture their principal business.

These 38 proprietors reported greenhouses with a glass surface of 393,205 square feet. The capital invested in land, buildings, implements, and live stock was $248,805, of which $121,350 represented the value of buildings. Their sales of flowers and plants amounted to $125,910, and of other products to $1,370, making an average value of $3,349 for each farm reporting. They expended $21,120 for labor, and $580 for fertilizers. The average gross income per acre was $528.13.

In addition to the 38 principal commercial florists' establishments, 173 farms and market gardens made use of glass in the propagation of flowers, plants, or vegetables. They had an area under glass of 187,786 square feet, making, with the 294,904 square feet belonging to the florists' establishments, a total of 482,690 square feet.

NURSERIES.

The total value of the nursery stock sold in 1899 was $234,033, reported by the operators of 83 farms and nurseries, 44 of whom derived their principal income from the nursery business. The latter had 3,975 acres of land, valued at $219,690; buildings, $66,810; implements and machinery, $7,085; and live stock, $9,325. Their total gross income was $243,258, of which $228,408 was derived from the sale of trees, shrubs, and plants, and $14,850 from the sale of other farm products. The expenditure for labor was $65,040, and that for fertilizers, $280. The average gross income was $5,528 for each farm reporting, and the average gross income per acre, $61.20.

LABOR AND FERTILIZERS.

The total expenditure for labor on farms in 1899, including the value of board furnished, was $7,399,160, an average of $61 per farm. The average was highest for the most intensively cultivated farms, being $1,478 for

nurseries, $556 for florists' establishments, $212 for sugar farms, $81 for live-stock farms, $49 for vegetable farms, $46 for fruit farms, $45 for hay and grain farms, and $35 for dairy farms. "Managers" expended on an average, $698 per farm; "owners," $56; "cash tenants," $55; and "share tenants," $36. White farmers expended $61 per farm, and colored farmers, $7.

Fertilizers purchased in 1899 cost $153,080, an average of over one dollar per farm, almost eight times the amount expended in 1890. The average expenditure was $15 for florists' establishments, $7 for vegetable farms, $6 for nurseries, $4 for sugar farms, and $1 for hay and grain, live-stock, and dairy farms.

IRRIGATION STATISTICS.

Nebraska, having an extreme length from east to west of 450 miles, lies in two distinct regions—one humid and the other arid. East of the one hundredth meridian the rainfall is usually sufficient for the successful cultivation of all crops, although some extensive irrigation systems have been established in this section, 31,805 acres having been irrigated there in 1899.

The western or arid portion of the state is typical of the Great Plains country. The rainfall is variable, but always deficient, and the snowfall usually light, while the climate is generally hot in summer and cold in winter. It is in this section of the state that irrigation has reached its greatest development.

The Platte, Kansas, and Niobrara rivers, draining portions of the arid region, furnish the water supply for practically all the irrigation systems. Nearly 90 per cent of the irrigated area of the state is found within the drainage basin of the Platte. This stream has two heads high up in the Rockies in Colorado, the North Fork flowing northward into Wyoming, and thence, in a general easterly direction, into Nebraska. The South Fork, after following a general easterly course through Colorado, flows through Nebraska for a distance of 80 miles to its junction with the North Fork at North Platte.

The valley of the North Platte is deep and broad and surrounded by wide areas of table-lands, smooth or very gently rolling, and sloping toward the east. The slopes along the sides of the river are irregular, changing from broad flat lands, lying nearly level with the river, to terraces rising to a height of 200 feet. Back of these terraces are the high, steep-sided table-lands. The flow of the North Platte is greater and more constant than that of the South Platte, so much water being diverted from the latter in Colorado, that its channel in Nebraska is dry for a portion of the year. In the fertile valley through which the North Platte flows in Scotts Bluff, Cheyenne, Deuel, and Keith counties, several large canals have been constructed and irrigation has been extensively developed. Below the junction of the North and South Platte, the main stream contributes water to some of the largest and most important irrigation systems in the state.

The counties in southwestern Nebraska bordering on Kansas are drained by the Republican River, a tributary of the Kansas. This stream has its sources in the Colorado plains and is intermittent in flow. In 1899 about 9,000 acres were irrigated from ditches supplied by the Republican and its tributaries.

Some irrigation development has taken place in the extreme northwestern part of the state along the White River and its branches. Most of the ditches are small and of private ownership.

Niobrara River, a stream of considerable importance, rises in the Pine Ridge in northwestern Nebraska, and flows across the northern tier of counties into the Missouri at Niobrara. It has a fall of about three feet to the mile and its valley is rarely more than one-half mile in width with regular slopes and an elevation of about 400 feet above the North Platte. Throughout the greater part of the year there is water in the channel of this stream. In 1899 the ditches diverting water from the Niobrara River irrigated 7,317 acres.

The collection of statistics relating to irrigation in Nebraska has been attended with considerable difficulty. The year of 1899 was one of severe drouths, and, owing to the scarcity of the water supply, many of the ditches were abandoned or operated only during the early portion of the season. In many sections of the state, crops which received but one irrigation were not reported by the enumerator as irrigated, and it is exceedingly probable that a very large acreage of land partially irrigated is not included in the census report. In the same manner many irrigation systems which were not successfully operated in the census year have been omitted from the reports.

The following table gives, by counties, an exhibit of the number of irrigators and the acreages irrigated in 1899 and 1889.

TABLE A.—NUMBER OF IRRIGATORS, AND ACRES IRRIGATED, BY COUNTIES: 1899 AND 1889.

COUNTIES.	NUMBER OF IRRIGATORS.		ACRES IRRIGATED.	
	1899.	1889.	1899.	1889.
The State	1,932	214	148,538	11,744
Buffalo	20	(1)	1,393	(1)
Cheyenne	162	36	21,288	3,154
Dawes	105	12	4,027	267
Dawson	333	(1)	20,097	(1)
Deuel	101	4	11,794	125
Dundy	63	4	4,552	41
Holt	21	(1)	2,218	(1)
Keith	73	6	12,646	295
Kimball	21	11	4,225	441
Lincoln	200	87	22,508	3,049
Platte	46	(1)	1,488	(1)
Redwillow	31	3	1,542	72
Scotts Bluff	291	70	29,244	2,753
Sioux	50	23	1,433	1,316
All other counties	415	8	10,083	231

[1] No irrigation reported in 1889.

In the decade from 1889 to 1899, the number of farmers who irrigated all or a portion of their land increased more than eight times, while the total acreage irrigated in the state was nearly thirteen times as great in 1899 as in 1889. Deuel county records the greatest relative gains in both the number of irrigators and the number of acres irrigated, the former having increased twenty-fourfold and the latter ninety-threefold. Dawson county has the largest number of irrigators, while Scotts Bluff county reports the greatest acreage irrigated in 1899.

An examination of the above table indicates that irrigation is being extended over widely distributed areas. It is probable that, as its benefits are more fully appreciated, the construction of irrigation systems will rapidly follow in all sections where water in sufficient quantities can be diverted without involving too great expense.

Table B presents the statistics of the crops grown on irrigated land in 1899. For purposes of comparison between the irrigated and unirrigated crops of the state, the figures should be used in connection with those in Table 18. Table C gives, by counties, the value of the irrigated crops of 1899.

TABLE B.—ACREAGE AND YIELD OF CROPS PRODUCED ON IRRIGATED LAND IN 1899.

CROP.	Acres.	Unit of measure.	Quantity.
Corn	33,078	Bushels	973,428
Wheat	14,143	Bushels	185,481
Oats	5,090	Bushels	150,070
Barley	940	Bushels	20,920
Rye	741	Bushels	8,346
Buckwheat	10	Bushels	160
Grass seed		Bushels	750
Wild, salt, or prairie grasses	47,890	Tons	57,398
Millet and Hungarian grasses	868	Tons	1,478
Alfalfa and lucern	22,172	Tons	58,665
Clover	47	Tons	78
Other tame and cultivated grasses	206	Tons	347
Grains cut green for hay	892	Tons	1,407
Forage crops	417	Tons	705
Dry beans	126	Bushels	922
Potatoes	1,075	Bushels	95,890
Sweet potatoes	5	Bushels	108
Onions	68	Bushels	11,717
Miscellaneous vegetables	651		
Dry pease	2	Bushels	23
Grapes	7	Centals	25
Orchard fruits	1,234	Bushels	8,233
Small fruits	64	Quarts	71,630

TABLE C.—VALUE OF CROPS PRODUCED ON IRRIGATED LAND IN 1899, BY COUNTIES.

COUNTIES.	All crops.	Hay and forage.	Cereals.	Vegetables.	Orchard fruits.	Small fruits.	Other crops.
The State[1]	$982,615	$488,528	$405,806	$75,125	$2,083	$5,918	$5,155
Buffalo	10,669	5,080	4,700	860	5	24	
Cheyenne	125,832	103,224	18,556	3,919	13	120	
Dawes	29,112	23,215	1,846	3,914	19	118	
Dawson	155,507	14,591	132,953	6,508	803	652	
Deuel	61,888	20,687	38,516	2,486	1	248	
Dundy	26,151	19,811	5,014	1,297	2	27	
Holt	4,411	200	3,978	233			
Keith	44,628	29,080	14,156	1,266	16	110	
Kimball	81,434	30,786	576	122			
Lincoln	152,055	50,076	92,900	7,285	630	1,080	84
Platte	3,972	298	1,054	2,506	102		12
Redwillow	10,589	8,000	4,927	2,531	96	35	
Scotts Bluff	220,297	141,256	62,225	11,581	4	239	4,990
Sioux	32,332	25,010	5,791	1,145	20	366	
Other counties	73,740	22,264	18,614	29,522	372	2,899	69

[1] Exclusive of Indian reservations.

Of the irrigated lands, 129,726 acres produced crops, and 18,802 acres were used for pasture only. The total value of all crops produced on irrigated land was $982,615, an average of $7.57 per acre. Of the total crop area irrigated, 55.9 per cent was in hay and forage; the output was valued at $428,528, or 48.7 per cent of the total value of irrigated crops.

Table D presents, by counties, the principal statistics relating to the canals and ditches receiving water from streams by gravity.

TABLE D.—LENGTH, AND COST OF CONSTRUCTION, OF MAIN CANALS AND DITCHES RECEIVING WATER FROM STREAMS BY GRAVITY.

COUNTIES.	Miles of ditch.	COST OF CONSTRUCTION.		
		Total.	Per mile.	Per acre irrigated in 1899.
The State	1,701	[1]$1,276,978	$750.72	[2]$7.43
Buffalo	10	4,352	435.20	3.14
Cheyenne	152	83,029	546.24	3.91
Dawes	132	39,208	297.03	9.78
Dawson	180	199,075	1,105.97	9.92
Deuel	110	67,140	610.36	5.70
Dundy	42	38,655	920.36	8.52
Holt	13	22,010	1,693.08	10.00
Keith	97	122,219	1,259.99	9.67
Kimball	25	32,321	1,292.84	7.65
Lincoln	282	142,567	505.56	6.39
Platte	17	190,600	11,211.76	[3]
Redwillow	20	12,156	607.80	3.05
Scotts Bluff	179	237,161	1,324.92	8.12
Sioux	84	7,899	94.51	5.52
All other counties	358	78,586	219.51	8.10

[1] Includes the Great Eastern Canal System, which cost $190,000, and was planned to cover 205,000 acres. Irrigation from this system was nominal in 1899.
[2] Does not include cost of Great Eastern Canal System.
[3] Water supplied principally by Great Eastern Canal System.

The cost of construction per mile of ditch in Nebraska is high in comparison with other sections having a similar topography. This is explained by the fact that many of the systems are of large dimensions, and the number of small ditches of private ownership is fewer in proportion to the number of irrigators than in other Western states. It is probable that the cost of many large canals has been reported in excess of the amount actually expended. The large streams flow in narrow valleys considerably below the surface of the plain, and in order to get the water out upon broad areas, canals of great length are required. This also explains the small number of acres—82 irrigated per mile of ditch.

While no comprehensive investigation has been made of the state's geological structure to ascertain the prospects for underground water, Prof. N. H. Darton of the Geological Survey has made a report based on Nebraskan fieldwork in 1897. His investigation was made of the region west of the one hundred and third meridian, and included the counties of Scotts Bluff, Banner, Cheyenne, Boxbutte, Dawes, Kimball, and Sioux, comprising an area of 7,400 square miles. The report states that the relations of underground waters there present a variety of features, there being large supplies at moderate depths in many localities, while in others the amount of water within reach of the average farmer is so small as to seriously

interfere with the settlement of very extensive areas. This has been the case particularly where large volumes of water were needed for cattle. In the flats adjoining the river in the Platte Valley, and in the Lodgepole Valley, a good supply of water can usually be obtained from wells varying in depth from ten to forty feet; on the table-lands on either side of the Lodgepole, large volumes are secured at depths ranging from one hundred and fifty to three hundred feet. In the Niobrara Valley water is obtained from shallow wells in the narrow strips of alluvial deposits near the river, while back on the table-lands, a plentiful supply is found at depths ranging from fifty to three hundred feet. In the sand hills water accumulates in basins at moderate depths so that shallow wells ordinarily obtain satisfactory supplies.

Where the well system is employed, water is pumped by windmills into reservoirs and thence diverted to the areas cultivated. In 1899, 843 acres were irrigated in this manner, nearly half of the area being located in the region described above.